

Rio de Janeiro for more than a year, reports (*Annales de l'Institut Pasteur*, November, 1903) that all the conclusions of Reed and his associates have been confirmed in every particular. Otherwise, its work has been unproductive. DR. G. SANARELLI (*Il Policlinico*, November 21, 1903), however, still opposes the idea that stegomyia is a necessary factor in spreading yellow fever, and asserts anew the importance of the part played by *B. icteroides*.

In a communication to Surgeon-General WALTER WYMAN (*Public Health Reports*, January 15, 1904), under date of December 18, 1903, the members of Working Party No. 2, Dr. M. J. Rosenau, chairman, report that from their studies at Vera Cruz, Mexico, during the summer of 1903, they are unable to corroborate all the findings of Working Party No. 1, having found phases of the organism *myxococcidium stegomyia* in normal mosquitoes.

The fact that it has been proved beyond doubt that the female *stegomyia fasciata* serves as an intermediate host and conveys the poison of yellow fever to non-immunes has led the Louisiana State Board of Health to promulgate the following recommendations (*Public Health Reports*, February 5, 1904): 1. The patient shall be put under a bar and the room properly screened, and all mosquitoes destroyed. 2. The house shall at once be closed and fumigated with pyrethrum powder, 4 ounces to 1000 cubic feet. Intoxicated mosquitoes must be swept up and burned. In case house is not occupied, sulphur should be used, 7 pounds to room, etc. Fumigation must be repeated every fourth day for three or four times. Commence all over with every new case of fever. 3. Every house or outhouse shall be so fumigated for a distance of 100 yards in every direction from the infected house. Fumigation repeated every fourth day for three or four times. 4. Great care to be exercised to prevent new mosquitoes from entering the infected room. When they do so, they must be killed and burned. 5. All cisterns in infected area must be screened or coal-oiled. 6. All vessels containing water must be emptied; pools and ditches drained and coal-oiled. 7. All drains, sinks, and privies are to be liberally sprinkled with coal-oil every third day for a period of eighteen days. Repeat after every new case.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF

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A Note on Experimental Arterial Atheroma.—Attempts have been made by several investigators to produce atheroma of the aorta in animals by intravenous injections of bacteria or bacterial toxins. In some cases the aorta was previously injured. Crocq has reported nega-

tive results, while Thérèse and Pernice were only able to produce very slight microscopic lesions in the wall of the aorta. Boinet and Romary have described small, raised areas in the aorta, which, on microscopic examination, had the characters of gelatiniform plaques. They believed these areas were the result of bacterial infection of the arterial wall. Josué has observed the formation of true calcareous plates after repeated injections of adrenalin. GILBERT and LION (*Arch. de méd. exp. et d'anat. path.*, 1904, T. xvi. p. 73) describe lesions in the aorta which they found in two rabbits after repeated intravenous inoculations of both living and killed cultures of a paracolon bacillus. In these experiments the artery did not receive any previous injury. One animal was allowed to live six months, the other ten months, after the primary inoculation. The middle coat of the aorta was the one affected, and the lesion consisted in a sclerocalcareous transformation. In another series of experiments the aorta was injured, and later cultures of typhoid bacilli were inoculated intravenously. After a few days the animals were killed. An acute aortitis was found at the site of trauma. The authors conclude that it is possible to produce atheroma of the aorta and acute aortitis in animals by intravenous inoculations of bacteria and bacterial toxins. This may take place with or without previous injury to the arterial wall.

Scarlet Fever, Protozoan-like Bodies Found in Four Cases.—

MALLORY (*Journal of Medical Research*, 1903, vol. x. p. 483) has found in four cases of scarlet fever certain bodies which in their morphology strongly suggest that they may be various stages in the developmental cycle of a protozoan. They occur in and between the epithelial cells of the epidermis and free in the superficial lymph vessels and spaces of the corium. The great majority of the bodies vary from 2 to 7 microns in diameter, and stain delicately but sharply with methylene blue. They form a series of bodies, including the formation of definite rosettes with numerous segments, which are closely analogous to the series seen in the asexual development (schizogonia) of the malarial parasite, but, in addition, there are certain coarsely reticulated forms which may represent stages in sporogonia, or be due to degeneration of other forms. The bodies were not found in the blood, lymph nodes, or any of the internal organs. The possibility of these bodies being artefacts or degenerations can be effectually excluded. If they are protozoa they must have some causal relation to scarlet fever, for were they normal or occasional inhabitants of the skin, their presence could hardly have been overlooked in the extensive work which has been done on the skin. Though the author believes that these bodies are protozoa and have an etiological relationship to scarlet fever, he does not claim that such a relationship has been absolutely proven. He proposes the name of "cyclaster scarlatinalis" for the organism.

Tuberculosis of the Tonsils in Children.—

The belief has steadily been gaining ground that the tonsils are one of the most important channels by which the tubercle bacillus enters the system during childhood. A comparatively large number of cases in which tubercle bacilli or tubercles could be demonstrated in the tonsils of adults have been recorded, but only a few observers, especially Friedmann and Latham, have confined their attention to the study of the tonsils in children. KINGSFORD (*Lancet*, 1904, vol. i. p. 89) has examined the tonsils of seventeen

children under five years of age, which at autopsy showed tuberculous lesions in various parts of the body. Tuberculosis of the tonsils could be demonstrated microscopically in seven of these cases, but in only one was there any evidence that the tonsillar infection was primary. In the other cases the infection probably took place by means of the blood stream or expectorated sputum. The author concludes that though tuberculosis of the tonsils is fairly common, the process is rarely primary in the tonsils. If the tonsils are tuberculous the cervical glands are also affected, but it may happen that the infection enters the body through the tonsils and reaches the cervical glands without leaving a demonstrable lesion in the tonsils themselves.

The Pathological Anatomy of "Paratyphoid Fever:" Report of a Fatal Case with Bacteriological Findings.—WELLS and SCOTT (*Journal of Infectious Diseases*, 1904, vol. i. p. 72) have collected the pathological and bacteriological reports of four fatal cases of paratyphoid fever. They describe in detail the history, bacteriology, and pathological findings of a fifth case. The case was one simulating typhoid fever, but giving negative Widal reactions throughout the course. The spleen was palpable, rose spots were present over the abdomen, and twice blood was passed in the stools. There was absence of depression, little or no delirium, and a relatively high pulse rate. At autopsy the general pathological picture was that of an acute infection. In the ileum, a short distance above the ileocaecal valve, an extensive ragged ulceration was found; the ulcers bore no relation to the lymphatic apparatus and appeared entirely dissimilar to the ulceration of typhoid fever, inasmuch as they were quite superficial and showed lack of infiltration. They resembled much more the ulcers of dysentery. There was no swelling either of the mesenteric or retroperitoneal lymph nodes. In sections the ulcers in the ileum looked entirely different from typhoid ulcers, particularly in the absence of infiltration and hyperplasia of the lymphoid follicles. The mesenteric lymph glands also showed total absence of congestion or lymphoid swelling of the lymph follicles and sinuses. A few foci of necrosis were seen in the liver. They were noticeable for their lack of endothelial cells. The spleen showed congestion with the presence of large endothelial cells containing golden-brown pigment. Cultures from the spleen and kidney gave a pure growth of paratyphoid bacilli. With the serum of a rabbit immunized against Buxton's paratyphoid bacillus, they agglutinated in dilutions of 1:40,000. The serum did not react toward typhoid or colon bacilli. The authors conclude that paratyphoid infections are accompanied by changes quite different from those of typhoid fever. The intestinal lesions are variable, and there is little anatomically to differentiate this type of infections from other septicæmias.

Influence of Splenectomy on the Leukocytes of the Blood of the Dog.—NICOLAS and DUMOULIN (*Jour. de phys. et de path. gén.*, 1903, T. v. p. 1073) conclude, from a study of the blood in two splenectomized dogs, that after splenectomy there is an increase in the number of white blood cells, and that this increase persists for some time after the operation, but eventually, perhaps after months, returns to the normal. There is an immediate diminution in the number of leukocytes, followed by a transient elevation of these cells. This finally gives place to a marked

and persistent decrease in the relative number of lymphocytes. The authors believe that this observation is important, inasmuch as it suggests that the spleen plays some part in the genesis of the lymphocytes. The polymorphonuclear leukocytes show a slight variation and are usually relatively increased. A marked eosinophilia occurred in one of the two dogs.

Changes in the Power of Absorption of the Animal Peritoneum Brought about by Intraperitoneal Injections of Adrenalin.—It is well known that the application of adrenalin to mucous surfaces causes anæmia, owing to the contraction of the capillaries. EXNER (*Zeitschrift für Heilkunde*, 1903, Bd. xxiv. p. 302), applying this principle to serous surfaces, experimented with adrenalin to study its effect when, injected intraperitoneally, upon the absorbing power of the peritoneum. Guinea-pigs and rabbits received intraperitoneal injections of adrenalin. Subsequently, when strychnine, potassium cyanide, physostigmine, and indigo were given into the peritoneum, the onset of toxic symptoms from these drugs or their absorption was much delayed over the control animals. With potassium iodide, the time required for its appearance in the urine was the same in normal animals and animals which had received adrenalin intraperitoneally. To determine whether the adrenalin injections affected the absorption through the bloodvessels or lymphatics, a fine emulsion of paraffin in gum arabic was used. The absorption of this substance was much retarded by previous intraperitoneal injections of adrenalin. By staining the diaphragm with silver nitrate, the structures described as stomata appeared less numerous in the adrenalin animals than in the normal animals. It was, therefore, thought that absorption through the lymphatics alone was retarded by adrenalin. Adrenalin injections had a very marked retarding effect upon the extension of bacteria from the peritoneum into the circulating blood.

From the results of these experiments, the author suggests that in operations for peritonitis a very material benefit might be derived by previously injecting adrenalin into the peritoneal cavity. By this procedure it is possible that the absorption of bacterial toxins from the peritoneum might be lessened during the manipulation of the intestines at operation.

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